

SCHOOL STUDENT ADMINISTRATION SYSTEM

MOHD RIDHUAN BIN HUSSAIN

CA10070

**THESIS SUBMITTED IN FULFILMENT OF
THE DEGREE OF COMPUTER SCIENCE
(COMPUTER AND NETWORKING)**

**FACULTY OF COMPUTER SYSTEM &
SOFTWARE ENGINEERING UNIVERSITI MALYSIA PAHANG**

2013

ABSTRACT

In this paper, a system that can manage the registration process of the students, convey information about the school activities by sending SMS to their parent and student attendance will be record automatically. Student's management in an organization is very complex. When talking about learning, student registration is a matter of a compulsory and usually taking registration takes a long time to fill out many forms. In addition, many letters will be given to the parents via students. Due this reason, a system was designed to overcome this problem. This system to register students, convey information about school activities by sending SMS. No longer need all the forms, letters statements, stationery and a list of students to record student attendance. In fact, this system can replace the old system to a more systematic and computerized.

ABSTRAK

Dalam kertas kerja ini, satu sistem yang boleh menguruskan proses pendaftaran pelajar tahun satu, menyampaikan maklumat mengenai aktiviti – aktiviti sekolah dengan menghantar SMS dan kedatangan pelajar akan direkodkan secara automatic. Pengurusan pelajar dalam sesebuah organisasi sangat rumit. Apabila bercakap tentang pembelajaran, pendaftaran pelajar tahun satu adalah satu perkara wajib dan kebiasaanya pengambilan pendaftaran mengambil masa yang lama untuk mengisi banyak boring. Selain itu, banyak surat yang akan diberikan kepada ibu bapa melalui pelajar - pelajar. Disebabkan alasan ini, satu sistem telah direka untuk mengatasi masalah ini. Sistem ini mendaftar pelajar, menyampaikan maklumat mengenai aktiviti sekolah dengan menghantar SMS. Malahan, system ini dapat menggantikan sistem yang lama kepada yang lebih sistematik dan berkomputer.

TABLE OF CONTENT

	Page
DECLARATION	iii
SUPERVISOR DECLARATION	iv
ACKNOWLEDGMENT	v
ABSTRACT	vi
ABSTRAK	vii
TABLE OF CONTENTS	vii
LIST OF TABLES	xii
LIST OF FIGURES	xii
LIST OF ABBREVIATIONS	xv
CHAPTER I INTRODUCTION	
1.2 Problem Statement	3
1.3 Objective	3
1.4 Scope	4
1.5 Conclusion	4

CHAPTER II LITERATURE REVIEW

2.2	Literature Study	
2.21	Design and implementation Registration System	
	at Tsinghua University	6
	2.2.1.1 Method Used	6
	2.2.1.2 Benefit of Design and Implementation	7
2.2.2	Automated Student's Course Registration	7
	2.2.2.1 Method Used	8
	2.2.2.2 Benefit of Automated student's	19
	registration	22
2.2.3	Attendance Management Sytem	8
	2.2.3.1 Method Used	9
2.2.4	Comparison of the System	10

CHAPTER III METHODOLOGY

3.2	Project Method	11
3.3	Step Development Life Cycle (SDLC)	14
	3.3.1 Planning	14
	3.2.2 Analysis	14
	3.2.3 Design	18
	3.3.3.1 Database Design	18
	3.3.3.2 Interface Design	22
		26

	3.3.4	Implementation	26
	3.3.5	Maintenance	
	3.3.6	Testing	
3.4		Software and Hardware Requirement	27

CHAPTER IV RESULTS AND DISCUSSION

4.1		Introduction	28
4.2		Development of Interface	29
4.3		Database Architecture	29
4.4		Development of System	30
	4.4.1	Coding for Registration Parents	31
	4.4.2	Coding for Application Registration	33
	4.4.3	Coding for Confirmation and Update	35
	4.4.4	Coding View Registration	35
	4.4.5	Coding View Activities	37
		Conclusion	37
4.5			

CHAPTER V RESULT AND DISCUSSION

5.2		Testing result	39
-----	--	----------------	----

5.3	Result Analysis	40
5.4	Constrain	47
	5.4.1 Development Constraint	47
	5.4.2 Documentation Constrain	47
5.6	Lesson Learn	48
 CHAPTER VI CONCLUSION		 49
 REFERENCE		 50
 APPENDIX		 51

CHAPTER 1

INTRODUCTION

This chapter will explain briefly about the project introduction, the problem statement, objective and the scope of this project. This chapter also will introduce about what system that will be develop and the concept that will be used.

1.1 Overview

The modern world is full of technological advances, mostly all also change towards more advanced. Many things have been up upgraded to the more advanced and more professional than before. Every school there are certain term of managing the registration, meeting annual activities and so on. All school in Malaysia or other country, no matter whether primary or secondary, each of them have own registration system. There also has their own system registration where to fill in manually or by filling out the form by using the internet. There has advantages and disadvantages in accordance with the way the system in used. A school Sekolah Rendah Islam An-Nur at Kota Bharu Kelantan has been selected to upgrade their registration system to more simple and organized that has been used previously. Majority schools in Malaysia enroll their new students, a blank form to be filled to store in a book of student enrollment. This school selected does not have a specific

system, but just only using a system registration form. All information about the new student that wants to enroll in this school, parents need to complete on the form provided by the school authorities. The weakness of this approach is the form might be missing, this will cause a problem to the school administration and the parents of the students have to fill in the information for their children again. By use the registration online system will facilitate both sides in registering students. System to be used in this school is online registration. This technique allows parents to register their children without wasting their time goes to school for register, wait and line up to register their child. Using this system parents must create their own account. After creating the account, they can put the information like their children information or any relative's information. When they have their own password so that they can edit if there are any problem before submit the form. Also the system checks if the form not full fulfill, parents cannot submit the form, error will occur when the form submitted.

Generally, all announcements would be posted on the advertisement board or on any social media like tweeter or Facebook.in office, they got their own way to inform their employee or top management regarding their forthcoming activities like company's website where all the information would be placed regularly according to their priority or through the old ways like posted on the advertisement board. In high level institution like universities, students have their own way to updates any new news related. Usually, they need to log in using their own password then after verified, they can access to all information's like course results, notes, merits and memos plus nowadays they can access to their study material everywhere as long as there is an internet. This is called e-learning or online learning and being practiced in many universities around the world. In oversea universities such as Stanford universities, they can interact with their lectures through video conference without having to go to classrooms. In this way, all the marking, all the quizzes and assignments and test just assigned straightly and student would complete it within the time. In lower education such as secondary school and primary school, all activities will be held in schools for examples sports, mutual cooperation, meeting of the PIBG, the school will provide a letter to students to bring back and give to their parents. Unfortunately, this

way is not effective since it exposed to many risk such as letter lost or letter would be kept in a bag for a long time since students at this level still not reach the level where they able to tell their parents the activities that will be held in school and without the proper supervision, parents would be out of dated about important activities like PIBG meeting and etc. To overcome this problem, when there are any activities that will be held at school, short message service (SMS) will be send to parents. A letter that should be given to parent is replaced by message. With this method, parent will easily notice if there is any activity that will be held at school.

1.2 Problem Statement

Parent do not have time to register their children at school because busy with work. Nowadays, peoples are busy with their career especially those that involve in business as they had to face various forms that might cost them too much time. if school kept asked them to fill various form that totally need same information, it would be consume a lot of time and parents would eventually missed to fill those form which would affect their children in school . There are also consequences regarding spread information using a letter. This is because the letter might easily lost or not receive by the parent.

1.3 Objective

The objectives of this system are;

- i. To develop a school web system registration
- ii. To develop school activity system will be send via SMS

1.4 Scope

The scope of this project has been search before the system is build. It is important because to make sure the system meet their requirement and to perform better phase of system under making. The scope is;

- i. Mainly focus on registration, activity and attendance system Sekolah Rendah Islam An-Nur Kota Bharu Kelantan
- ii. Only focus on student year one.
- iii. Only two user can use this system:
 - Admin who will monitor this system:
The admin will monitoring the system by sending SMS to parent when activity have at school
 - Parents students:
Parents will use web based for online registration

1.5 Conclusion

It could be said that, this system would benefit two sides, teacher and parents. Where the time spent more orderly and organized if compared with manual systems. Parents no longer have to go to school to fill out the form, just use the online registration system to register their children. Besides that, as their already fill up their information, the information would be key-in in their database. After that, any latest announcement like sports day or any important day would be informed to the parents straightly through SMS. In that way, parents would never miss any events that concern their children. For the children attendance, parents would know immediately whether their children has skipped class or not through SMS as this program has been designed to send the SMS to their parents if their children not come to school for certain period like a week.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reveal on the literature review that is related with what will be developed later. The literature is very important step in the research process. Literature review is process of reading analyzing, evaluating and summarizing scholarly materials about a specific topic that related with the project want to develop. Two key steps in a literature search are finding source and synthesizing information.

The references of source were merely taken from books, articles, journals, magazines and also other source from the internet.

2.2 Literature Study

There are several articles that related to this topic, overview the three systems:

- a) Design and implementation of the online course registration system at Tsinghua University
- b) Automated Student's Courses Registration Using Computer-Telephony Integration
- c) Attendance Management System using Fingerprint Scanner

2.2.1 Design and Implementation of the Online Course Registration System at Tsinghua University

University Tsinghua is a university offers more than 3000 curriculums per semester and online registration in seven times. It important part in registration activities. Early 2006 a special project was started named by “the modernization of technical platform. It purposes to make to emphasize the student-oriented concept, full meet registration requirements and also to improve the efficiency and quality of course. The registration system already reconstructed the online course new registration mechanism. The system design and architecture method to ensure the system more adaptable and flexible to support all kinds of student and online course. This system now has reached domestic advance level through continuous improvement with proactive cooperation of all teacher student and all academic departments.

2.2.1.1 Method That Used This System Is:

i. Registration Mechanism:

For registration mechanism have three parts. Registration phase, adjustment phase and dropping phase. In the registration phase, this system used willingness method. Adjustment phase student can register via first-come-first-serve if the capacity of the course allows and the dropping phase, student could do nothing but they can drop courses.

ii. Technical architecture:

C/S: C/S architecture is used to implement administration functionalities. Developing environment is Power Build 10.2. The B/S access method is implemented in C/S system by applying Citrix technology.

B/S: B/S architecture is used to implement all kinds of functionalities for the students and teachers by using JAVA. The framework is based on spring and Hibernate. It uses MVC structure which separates view, business and model.

2.2.1.2 Benefit of Design and Implementation of the Online Course Registration

The new system online registration course can solve the unfair problem by drawing lots randomly and performance issues. It implement common registration for both undergraduate and graduate student, supports teaching activities across three semester including fall, summer and spring. The system will be continuously improved to support mobile, abroad student and international visiting students to ensure the teaching activities with the spread and realization of the concept for international education

2.2.2 Automated Student's Courses Registration Using Computer-Telephony Integration

This project system discussed for automated student's courses registration. This system allows students to register the courses with easy without wasting the time waiting in long queues. This system proses is by using entering the identify student registration number. The system automatically checks the courses if opened or closed and the subject already taken it. After a selection made, the system automatically repeats each choice for verification. After complete the registration, a copy courses schedule of students will sent by email. A system will run on 12-port platform.

2.2.2.1 Method That Use This System:

This method use two methods, system hardware and system software.

Hardware can be categorized into three. Those categories are personal computer based, telephony lines and telephony interface (voice card). They have different manufacturer's resources requirement.

Software support also can be divided into three categories. Windows NT or above as environment, voice driver as an interface between the two components (computer and telephone) and telephony toolkit as telephony application programming interface (TAPI). In addition, they have a database for every courses registration.

2.2.2.2 Benefit Of Automated Student's Courses Registration

This system has a lot of advantage and benefits. This system always there for everyone whether day and night. The cost is so efficient the system can be automatically set up to dynamically manage the use of telephone line. Moreover, the power that used is more little time power, as all the data input to CTI system is fed directly to the computer. The data inputted can be can be fully automated. This is due to the very nature of computer telephony, as all the data is fed straight into the computer system. Student will highly experience reduced waiting times before processing during and also upon completion.

2.2.3 Attendance Management System Using Fingerprint Scanner

The current system in lab session or lecturer is the lecturer hand out of the student list name to sign and make sure the student who attends that class. But the student cheat in do student attendance is easily and frequently happened. For example, another student signed her/his friend for attendance. The fingerprint scanner is developing to prevent this problem attendance using biometric fingerprint recognition. It will record and monitor the

attendance of every student in school at the class. This system not develop based on barcode system in student's smart card it because the barcode very easy to duplicate and produce, but fingerprint cannot duplicate and unique for everyone.

2.2.3.1 Method That Use This System:

The method that use in this system is using Microsoft Studio 2005 programming language. It designs the user-friendly interface with extended GUI. The programming language is used to integrate with the Microsoft Power Visual Studio Reader as an input. Also to make the reader to communicate with Microsoft's.NET Framework, the *GrFingerXCtrl Class* toolbox by Griaule is used.

2.2.4 Comparison of the System:

System	Benefit	Method
Design and implementation of the online course registration system at Tsinghua University	<ul style="list-style-type: none">-Solve the unfair problem by drawing lots randomly and performance issues- Improved to support mobile, abroad student and international visiting students to ensure the teaching activities with the	<ul style="list-style-type: none">- Willingness method- Power Build 10.2- JAVA
Automated Student's Courses Registration Using Computer-Telephony Integration	<ul style="list-style-type: none">- The power that used is more little time power- Automatically set up to dynamically manage the use of telephone line	<ul style="list-style-type: none">- Computer based, telephony lines and telephony interface (voice card)- Windows NT
Attendance Management System using Fingerprint Scanner	<ul style="list-style-type: none">-Reduced the prevent cheat in students' attendance- System automatically easy to store, acquire and calculate the student's data and attendance into a personal computer, laptop.	<ul style="list-style-type: none">- Microsoft Studio 2005

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter will be discusses about the concept of methodology use for developing the application to well. This chapter will inform and describe about the system development life Cycle and hardware specification that are need for develop application and implementation for this project. Methodology is a codified set of recommend practices, formal educational programs and diagramming tools. Many methodologies include a diagramming notation for documenting the result of the procedure objective set of criteria.

3.2 Project Method

In this School Student Administration System the methodology that will be use is the Development Life Cycle (SDLC) is the common methodology for system development. The SDLC methodology tracks project from starting of development, through planning, analysis, design, implementation, maintenance and testing. The SDLC method describes more detail about this system flow process in School Student Administration System.

The SDLC model includes the following phase below:

- i. Planning
- ii. Analysis
- iii. Design
- iv. Implementation
- v. Maintenance
- vi. Testing

In the System Development Life Cycle consist 5 phase to ensure the application or system that successfully develop. Figure 3.1 below show the System Development Life Cycles.

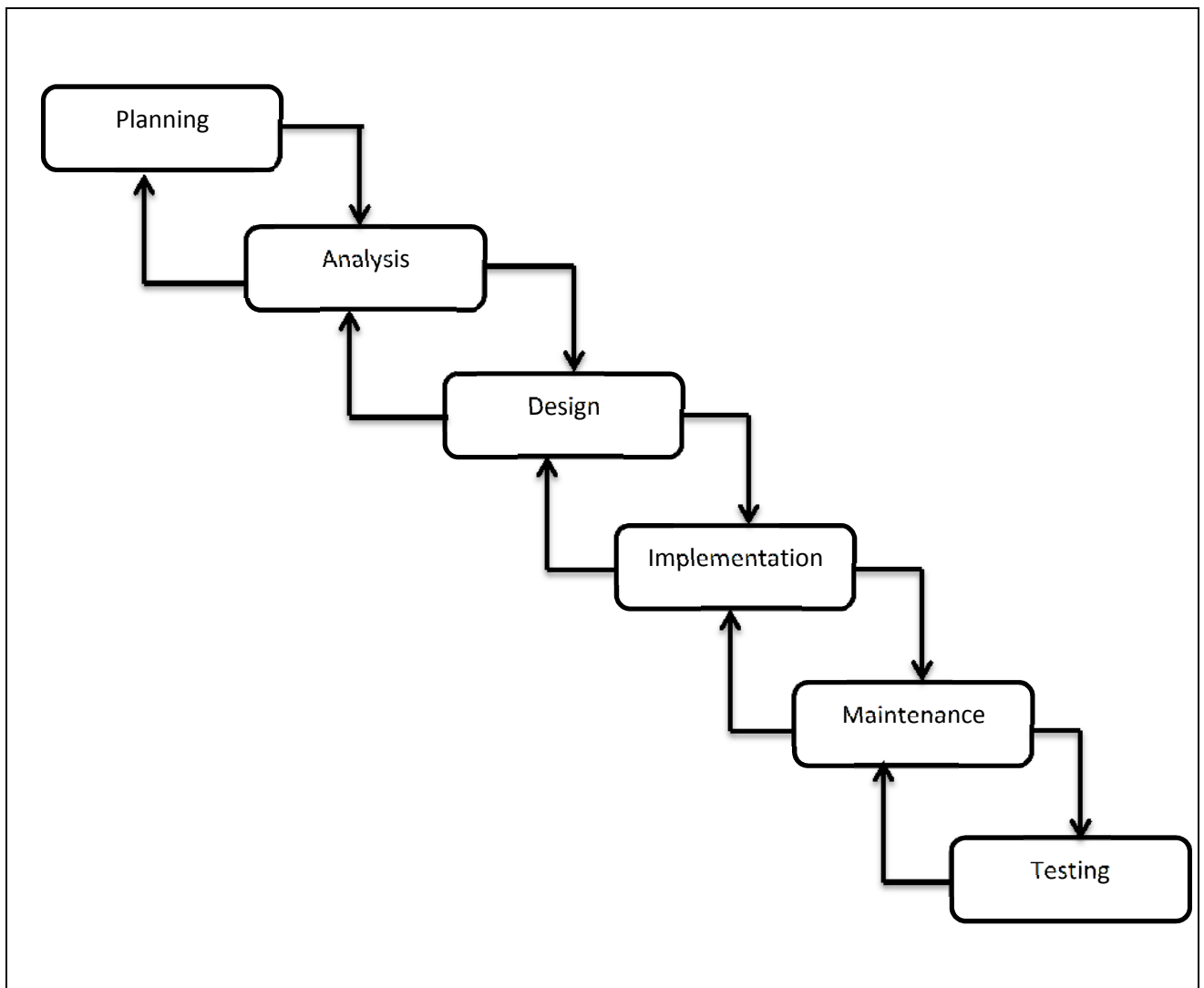


Figure 3.2: System Development Life Cycles (SDLC)

System Development Life Cycle (SDLC) selected for this project develop because the project can return to earlier phase if have necessary this method provides consistent frameworks of a task and needed to develop system. Moreover, SDLC also possible to complete some activities in one phase with some activities of another phase.

3.3 Step in System Development Life Cycle (SDLC)

3.3.1 Planning

In this phase, first step to do is select or choosing one system in around that need to upgrade to more attractive. Then, define a title for the system that wants to develop. After that, think to get the objective to develop that system. Get the more information to identify the current system to define the problem. The final step is brainstorm about the idea and obtains information in developing the system.

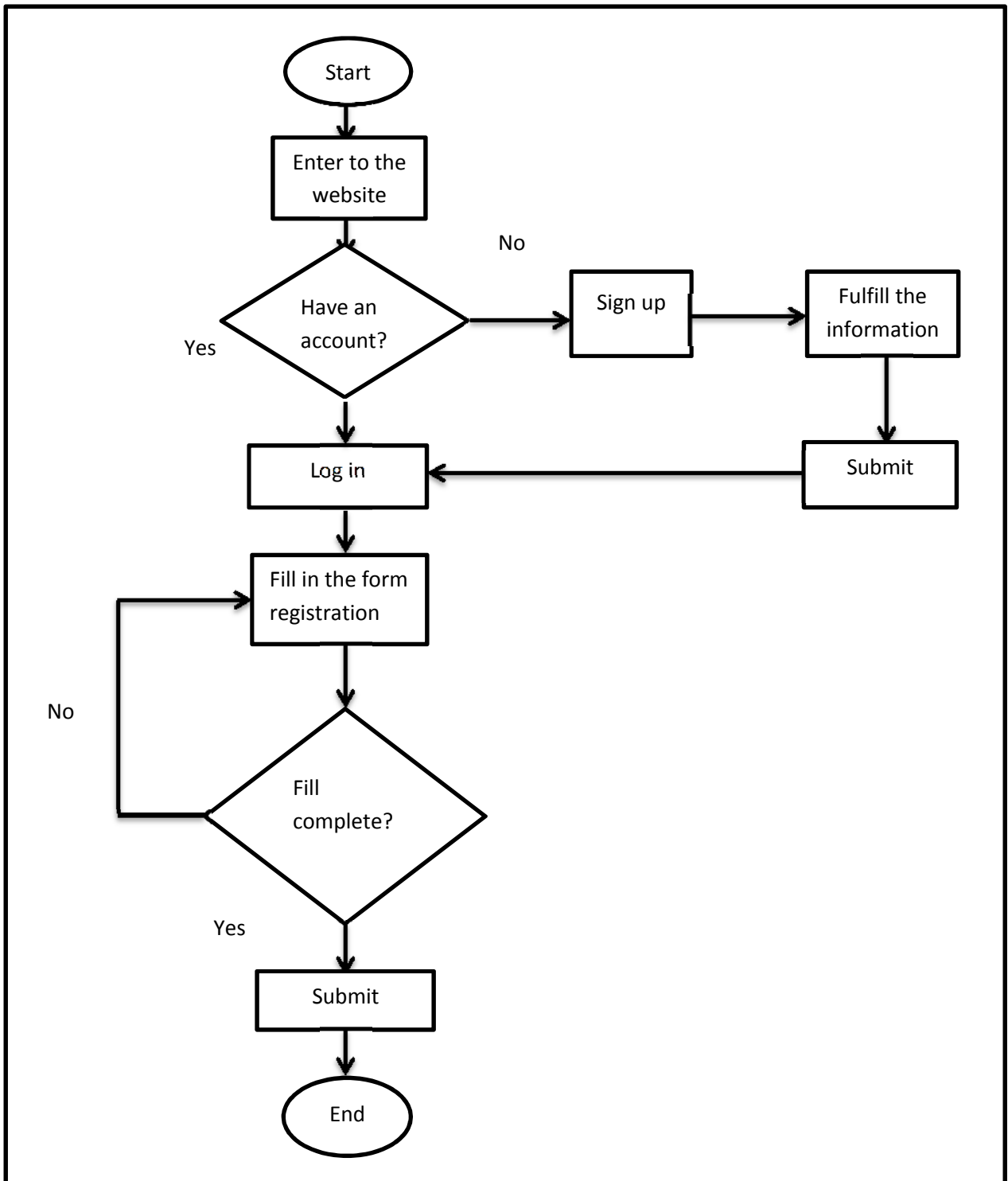
This phase is to establish a high-level view the project determine and planning its goal. The Gantt chart is use to plan or schedule the activity that will be involved during development project. Gantt chart is necessary to determine whether the project can be done or not within the all allocated.

3.3.2 Analysis

The main objectives of these activities are to make developers to understand their proposed project, build a solid foundation and ensure it will support business requirements for the systems design phase. It also includes refines project objective or target into operation application and defines functions.

- i. Using the Microsoft Word 2010 to draft the context diagram will be created. Using Notepad ++ to created interface diagram. The external and process entities are that involve with the system is define.
- ii. After that, the flowchart of this system will also be created that will show the interaction basic flow of the system during a specified period

3.3.2.1 Flow Chart



The figure 3.1: Flow chart process login system and Confirmation Registration

Parents register their child first day.

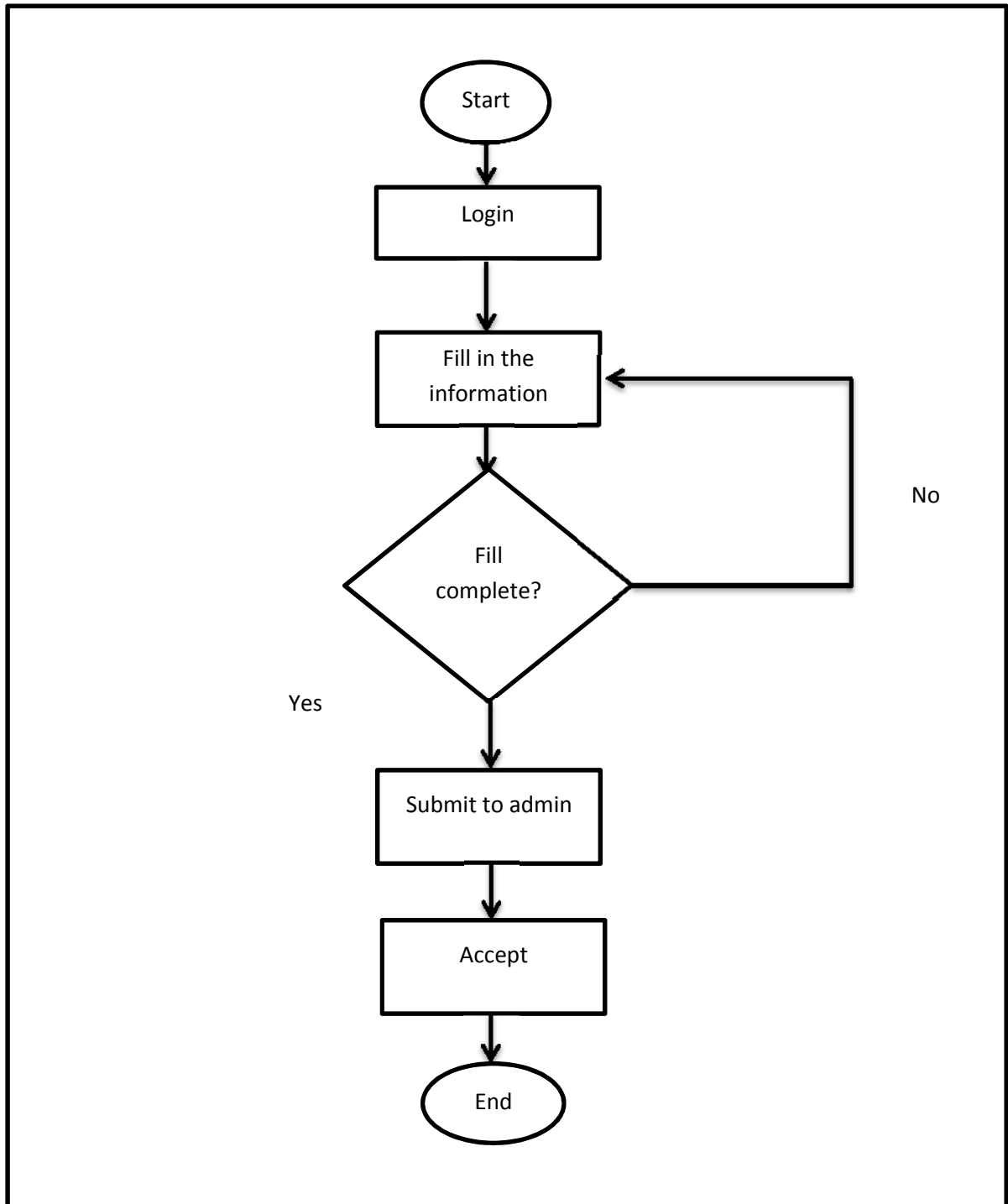


Figure 3.3: Flow chart (First day registration)

For admin to send information to parents or the activity school.

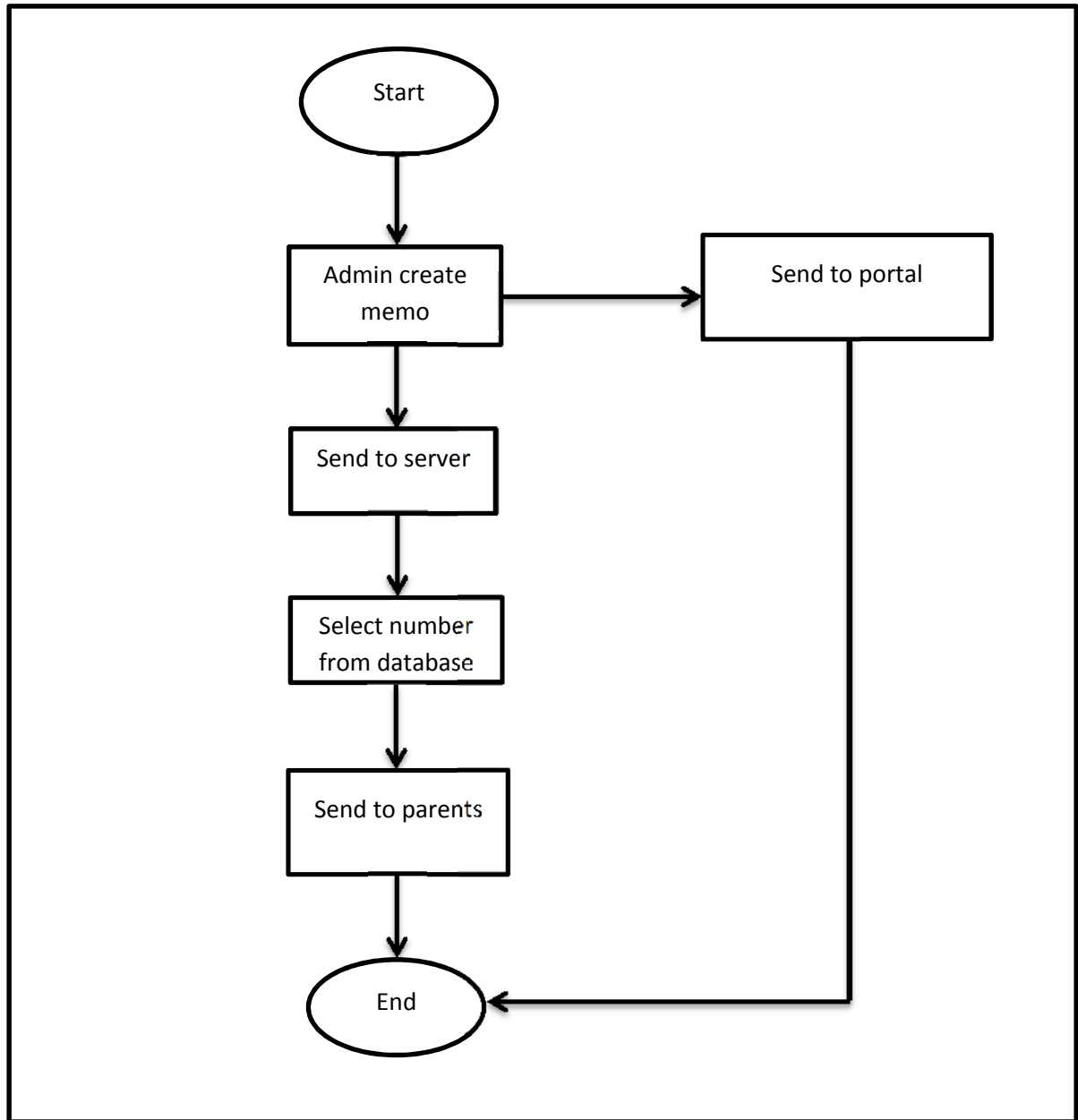


Figure 3.4: Flow chart (admin send information through SMS)